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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,224	12/04/2001	Dan Dolev	149.002	8419

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EXAMINER

VO, LILIAN

ART UNIT

PAPER NUMBER

2127

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/683,224

Applicant(s)

DOLEV ET AL.

Examiner

Lilian Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/9/02</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. Claims 1 – 15 are pending.

#### *Claim Rejections - 35 USC § 101*

2. Claims 1 - 11 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.
3. **Claims 1 - 11** are directed to method steps, which can be practiced mentally in conjunction with pen and paper, therefore they are directed to non-statutory subject matter. Specifically, as claimed, it is uncertain what performs each of the claimed method steps. Moreover, each of the claimed steps, inter alia, selecting, determining, directing, providing, skewing, changing, resetting, can be practiced mentally in conjunctions with pen and paper. The claimed steps do not define a machine or computer implemented process [see MPEP 2106]. Therefore, the claimed invention is directed to non-statutory subject matter. (The examiner suggests applicant to change “method” to “computer implemented method” in the preamble to overcome the outstanding 35 U.S.C. 101 rejection).

#### *Claim Objections*

4. Claims 2, 4 and 5 are objected to because of the following informalities:
  - A. **Claim 2** has an extra quotation mark at the end.
  - B. **Claims 4 and 5** have extra word such as “a” and/or “the”.Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 5, ~~8~~<sup>10</sup> and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- A. The following terms lack of antecedent basis:

- a. "said skewed", in claim 5.
- b. "said other server", in claims 9 and 10.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, 7 - 11 and 14 - 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choquier et al. (US 5,774,668, hereinafter Choquier) in view of Goyal (6,711,607).

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9. Regarding **claim 1**, Choquier discloses a method for directing a request to one server out of a plurality of servers (abstract), comprising the steps of:

selecting a server (fig. 6 and col. 15, lines 25 – line 50);

determining whether said selected server has remaining capacity to handle the request (col. 11, lines 14 – 29); and

directing the request to said selected server, only if said server has remaining capacity to handle the request (col. 11, lines 14 – 29 and col. 15, lines 25 – 50).

Choquier teaches of selecting a server to handle a request but did not clearly disclose the request involving an expected load. Nevertheless, Goyal discloses that before assigning the task/request to be serviced/processed by one of the servers, a determination was made to guarantee that the server has the efficient capacity resource (abstract, col. 3, lines 37 – 52). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate Goyal's teaching with Choquier so that requests can be provided with quality of service with the determining of the sufficient resource capacity.

10. Regarding **claim 2**, as modified Choquier further discloses the step of:

providing at least one token associated with each of the plurality of servers, and wherein said step of selecting a server includes the step of selecting at least one token associated with said server (Choquier: col. 10, lines 20 – 33, 58 – col. 11, line 29).

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11. Regarding **claim 7**, as modified Choquier discloses the step of changing the remaining capacity to reflect the expected load if the request is directed to the server (Goyle: figs. 3a – 3c, col. 3, lines 37 – 61, col. 5, lines 50 – 56).
12. Regarding **claim 8**, as modified Choquier discloses the step of selecting another server if said server does not have remaining capacity to handle the expected load (Goyle: col. 3, lines 50 – 61).
13. Regarding **claim 9**, as modified Choquier discloses the other server is part of the same set (Choquier: figs. 3 – 4).
14. Regarding **claim 10**, as modified Choquier discloses the other server is part of a reserve set (Choquier: col. 23, lines 17 – 24).
15. Regarding **claim 11**, as modified Choquier discloses the calculation of average load of the service group over a predetermined period of time (Choquier: col. 23, line 61 – col. 24, line 14) and the service map is automatically updated on a substantially periodic basis to reflect changes in application server loads (Choquier: col. 29, lines 1 – 3). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to recognize the updated of the availability of resource for a period is thus resetting the remaining capacity for each time frame.
16. **Claims 14 and 15** are rejected on the same ground as stated in claim 1 above.

17. Claims 3 - 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choquier et al. (US 5,774,668) in view of Goyal (6,711,607), as applied to claim 1 above, and further in view of Primak et al. (US 2002/0010783, hereinafter Primak).

18. Regarding **claim 3**, as modified Choquier did not clearly teaching the additional limitation as claimed. Nevertheless, Primak discloses the probability of selecting a token associated with one server differs from the probability of selecting a token associated with at least one other server (page 2, paragraph 14 and page 3, paragraph 32). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made to incorporate Primak's teaching together with modified Choquier to fulfill the request requirement accordingly by efficiently utilize the availability resource as each server has different load, thus their ability to handle incoming requests is not the same.

19. Regarding **claim 4**, as modified Choquier discloses the step of providing a number of tokens associated with each of the plurality of servers, wherein the number is proportional to the load limitation of each of the servers (Primak: fig. 5, page 2, paragraph 14 and page 3, paragraph 32).

20. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choquier et al. (US 5,774,668) in view of Goyal (6,711,607), as applied to claim 1 above, in view of Primak et

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al. (US 2002/0010783, hereinafter Primak), and further in view of Bhaskaran et al. (US 6,601,084, hereinafter Bhaskaran).

21. Regarding **claim 5**, modified Choquier did not clearly disclose the additional limitation as claimed. Nevertheless, Bhaskaran discloses the step of skewing the probability of selecting of at least one token associated with the server and the skewed probability being disproportionate to the number of tokens associated with the server (fig. 9, col. 4, lines 29 – 38, col. 10, lines 11 – 43, col. 11, lines 51 – 65). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate Bhaskaran's concept of skewing the probability of server selection to provide a dynamic load balancing and server fault tolerance for a plurality of servers with monitoring the load on the servers to maintain a balanced load on the servers (Bhaskaran: col. 13, lines 26 – 35).

22. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choquier et al. (US 5,774,668) in view of Goyal (6,711,607), as applied to claim 1 above, and further in view of Jain et al. (US 6,795,858, hereinafter Jain).

23. Regarding **claim 6**, modified Choquier did not clearly disclose the additional limitation as claimed. Nevertheless, Jain discloses the step of providing a number of tokens associated with each of the plurality of servers, wherein said number is disproportionate to a load limitation of each of the servers and the number is at least partly based on a priority of each of the servers (abstract, col. 3, lines 45 – 52, col. 5, line 52 – col. 6, line 2, col. 7, line 41 – col. 8, line 7, line 63



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– col. 9, line 18). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate Jain's teaching with modified Choquier so that server selection can be performed base on the most importance metric as necessary.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

24. Claims 12 – 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu et al. (US Pat. Application Publication 2002/0194350, hereinafter Lu).

25. Regarding **claim 12**, Lu discloses a system for allocating requests among servers, comprising:

a plurality of servers (figs. 4 - 5);

a first memory divided into entries, with at least one entry associated with each server and including an indication of the server (fig. 10C, 7, paragraph 115);

a second memory divided into entries, with at least one entry associated with each server and including a representation of a remaining capacity of the server (page 8, paragraph 130, figs. 10C – 10D); and

a selector for selecting from among the entries of the first memory (page 7, paragraph 117).

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26. Regarding **claim 13**, Lu discloses at least one other set of at least one server to which requests can be allocated if there is no remaining capacity in any of the plurality of servers (page 9, paragraphs 149 - 150).

***Conclusion***

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 571-272-3774. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo  
Examiner  
Art Unit 2127

lv  
January 7, 2005

**MENG-AI AN**  
**SUPERVISORY PATENT EXAMINER**  
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